

ARMY HEALTH CONNECTION

U.S. ARMY CENTER FOR HEALTH PROMOTION AND PREVENTIVE MEDICINE

DIRECTORATE OF HEALTH PROMOTION AND WELLNESS

Volume 3, Issue 1

Winter 1997

Injury Prevention in the Military

An Interview with COL Bruce H. Jones by Marcie Birk

Sprains, strains, stress fractures, tendinitis. Painful and sometimes disabling, injuries like these lead to profiles and lost duty days. They are a problem. But how big a problem? According to COL Bruce H. Jones, M.D., M.P.H., injuries are a very large problem. COL Jones is the Director of Epidemiology and Disease Surveillance at the U.S. Army Center for Health Promotion and Preventive Medicine. Most of his career has been devoted to documenting the impact of injuries on soldiers and readiness of military units.

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"Injuries are the leading health problem in the military," said COL Jones. Injuries are also the number one cause of death. Fifty percent of disabilities appear to be injury-related and 25-30% of hospitalizations.

"But that's just the tip of the iceberg," COL Jones said. The problem with outpatient visits is even larger. For basic trainees and in more active units, injuries account for upwards of 50% of all outpatient clinic visits and 80-90% of limited duty days. These numbers have a significant impact on readiness.

Injuries: Causes and Cure

When asked about the cause of all these injuries, COL Jones said most preventable injuries occur because of overuse from repetitive activities like running, road marching, digging trenches, or loading a Howitzer over and over. In both combat and training, the number one cause of preventable injuries is vigorous physical training and operational activities.

In order to have an impact on



this problem, COL Jones said we first must understand that over-training causes injuries. He noted that observational studies from both the Army and the civilian sector indicate a dose/response relationship with the amount of running and risk of injuries. In other words, increased running means increased injuries. And there's good reason to believe this is true of other activities: increased activity means increased injury rates.

COL Jones pointed out that there are thresholds of training above which injury rates increase

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The purpose of this newsletter is to offer practical information for the health promotion practitioner. It is not intended to provide medical advice on personal health matters, which should be obtained directly from a physician.

Reproduction of this newsletter is encouraged.

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but fitness levels do not. The U.S. Marine Corps conducted a study of recruits in which weight bearing training was reduced but level of fitness was maintained. This proves it can be done. "The old school of thought that more is better and no pain-no gain has got to go," said COL Jones.

Evaluation of Running Mileage, Stress Fracture Incidence, and Final Fitness Among Male U.S. Marine Corps Recruits

Naval Health Research Center - Injury Prevention Trial

Mileage*	%Stress Fracture	3-mile run time (mean)
55	3.7%	20:20
41	2.7%	20:44
33	1.7%	20:53

*Total organized running during training.

50% Reduction in Stress Fractures =
- 350 less stress fractures per year
- Prevent 14,8000 lost training days
- Cost savings of \$4.5 million per year

According to COL Jones, there are four components to decreasing injury rates:

1. Recognize that there is a problem.
2. Understand the causes of the problem.
3. Develop strategies to address the problem.
4. Monitor the effects of the interventions.

An example COL Jones cited was of tactical parachuting and ankle injuries. Safety Center data shows that fifty percent of parachuting injuries were due to ankle injuries. But soldiers need to practice jumping out of planes so that it can be done safely during combat so researchers looked for places in the chain of events where an intervention could be made.

A medical doctor came up with a brace that fit over the boot and could easily be removed after landing. This one small change reduced the incidence of ankle injuries by 85% at the Airborne School.

Injury Prevention Tools

To reduce injury rates, commanders need to monitor their populations: the fitness level (i.e., average APFT scores), the kind of training being done, and the injury rates. If one of these shows a significant rise or fall, the commander can look at the other compo-

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From the Director



As we begin 1997 with much optimism, it is time for some wishful thinking in the wonderful land of health promotion and wellness:

Wouldn't it be great for each of us to use the beginning of 1997 to renew our commitment to healthier living? Commitments include learning to manage stress, exercising regularly, eating more fruits and vegetables, limiting the fat in your diet, getting 7 to 8 hours of sleep daily, and wearing your seatbelt. When you change your present lifestyle into a new **Healthstyle**, it's possible that you may feel better, look better,

and live longer, too. Ignoring the need to change your lifestyle may cause you to miss out on valuable opportunities for giving yourself the greatest gift of all - **Health!**

Wouldn't it be great to congratulate Lieutenant General Blanck, our Army Surgeon General, for his efforts to proliferate health promotion and wellness in the Army Medical Department?

Wouldn't it be great to give all of our health promotion personnel kudos for providing essential health promotion programs for the past 10 years in support of Total Force readiness?

Wouldn't it be great to have our leaders help to educate our soldiers in the areas of health and fitness by setting the example of not smoking, exercising on a regular basis, eating a proper diet, and maintaining appropriate weight?

Wouldn't it be great to see more of our consumers being effectively trained to use self-care reference books to reduce

unnecessary physician visits throughout our military health care system? Studies indicate that self-care education is showing promise for affecting prudent health services utilization behavior in consumers.

Wouldn't it be great to see every individual soldier take responsibility for his or her own health? Good health is not a matter of luck or fate. You have to work at it by taking action individually. A behavioral lifestyle is one of the most important factors affecting health. Many of the leading causes of death in the United States can be reduced through common sense changes in lifestyle. It's all about making the right lifestyle **Choices**.

Wouldn't it be great to frequently remind yourself that: **Health Promotion Starts with Me?** I wish one and all a happy and prosperous 1997. Remember, start a new **Healthstyle** today!

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nents for possible causes. For example, if profiles go up, the commander can look at training to see what might be causing the problem. COL Jones said the injury prevention tools are simple: knowledge of the population and profile rates.

Unfortunately, many commanders don't use these tools because they don't have a clear understanding that most injuries are preventable. COL Jones said we now have statistics that show a real cause and effect relationship between injuries and physical fitness level, training, age, etc. There are real risk factors which impact on injury rates. And vigorous physical activity is the number one risk factor for injuries.

"The irony is that increased physical fitness decreases likelihood of injuries," COL Jones said, "but soldiers must train to get fit and training increases likelihood of injuries."

COL Jones said that the key is to focus on specific populations: infantry, artillery, basic training, Special Forces, etc. Each unique population and individual unit has a different fitness level. And exceeding these fitness levels too rapidly results in injuries.

Training Recommendations

When asked if there were some across the board recommendations for training, COL Jones said, "Blanket recommendations are not the solution. Commanders need to understand the concept and apply it to their own population. They need to ask - What's normal for my unit?"

He recommended that commanders look back over the past six months to a year in order to establish a baseline for injury rates. Once a baseline has been established, commanders can see if the injury rates are going up or down. If they go up, commanders can look at training or operational activities to find out why and take corrective action.

Of course, smart commanders look to decrease injury rates, if only by a small percentage. COL Jones pointed out that the military has had great success in decreasing the rates of motor vehicle accidents. Since 1980, there has been a 50% decrease in motor vehicle accidents. The percentage change in any one year was small - 2-3% - but this incremental change has added up.

And because of this push to decrease motor vehicle accidents, deaths and hospitalization rates have also decreased substantially.

"This has been accomplished because there was a clear target, a system for monitoring rates, and a push to keep rates down," COL Jones said. He feels the same thing can be done for injuries.

Sports Injuries

Sports are another source of potentially preventable injuries. During Operations Desert Shield and Desert Storm, 20% of injuries were from sports. COL Jones said that common sense says they are preventable but first there must be a recognition that a problem exists. It is unlikely that commanders will decrease the amount of sports available to their units. But, as COL Jones pointed out, we didn't need to stop driving in order to decrease motor vehicle accidents. He believes that with sports and training-related injuries, once we focus on the problem, we can have the same effect.

Resources for Prevention

COL Jones said that the medical staff is the primary consultant for prevention because they can document problems, possible causes, and possible interventions. Some problems are obvious. For example, say a population of 100 basic trainees usually has a knee injury rate of 10 per week. Then one week, the commander increases the load and distance of road marches and the rate jumps to 20. It's obvious where the problem is. But other problems are more subtle. That's where the physical therapist or occupational therapist can come in and look at training methods or changes in training and find what might be the cause.

However, the critical element in prevention is the unit commander. "It's up to that person to do something about injury rates," said COL Jones. The medical staff can tell that there is a problem and its possible causes but they cannot prevent the problem. It really involves a team effort between the medical staff and the commander.

"What we need to do is establish partnerships for prevention that involve the entire military community," said COL Jones.

And the teamwork doesn't stop at injury prevention. The care providers, commander and soldier need to also work together when a soldier is

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New Health Education Center At Tripler

by LTC Sandy Stuban
Patient Education Coordinator
Tripler Army Medical Center

Tripler's new health education center, which opened July 1996, is a resource center for patients and their families to do comprehensive research on topics related to their health. The goals of the Center are to provide the information and tools which will help individuals to 1) make healthy lifestyle choices and practice health promotion behaviors, 2) understand and participate in treatment of their illness or disease, and 3) be an informed consumer of health care. The Center is located along with Tripler's Patient Education offices and the Community Library. All beneficiaries of military health care are encouraged to use the Center which has access to a wide variety of resources.

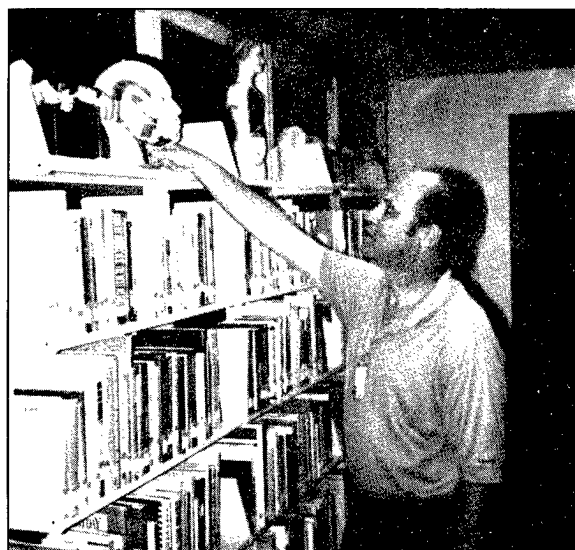
The Center houses three Pentium computer workstations which allow the use of the interactive, multimedia CD-ROM health education programs as well as access to the Internet. Computerized searches of specific topics are made even easier

with InfoTrac, a health database used to conduct literature searches that are consumer-oriented. Along with the computers, individuals also have access to a numerous health-related books, videotapes, and audiotapes. Resources also include anatomical models, a Medical Language Translator Program, Tricare Health Care Information Hotline, and free literature. Technical information and educational counseling are available from the RN/LPN staff.

The Center provides a quality, comprehensive selection of valuable health information resources to meet the educational needs of patients. The expectation is that as patients are more informed about their health, they will take a more active, interested role in choices related to their health. A more informed "consumer" is more likely to follow the instructions of their health care provider and show motivation toward introducing healthier behaviors into their lifestyle. The ultimate goal is a healthier and better-informed population. For more information about this program, contact LTC Sandy Stuban at comm. (808) 433-2565.



Jenna Woods, family member, uses InfoTrac.



Joe Washington, Assistant Patient Education Coordinator, inspects one of fifteen models.



What's Happening?



"Climb to Fitness" Camp

By Kate Agresti, MEDDAC PAO
Ft. Drum, New York

What offers three days of intensive focus on fitness, nutrition, healthy cooking, and making smart choices at fast food restaurants? It's not some luxurious health spa - it's a fitness camp for active duty soldiers and their spouses at Ft. Drum.

The "Climb to Fitness" Camp is sponsored by the U.S. Army Medical Department Activity's Community Health Nursing section and is an avenue for soldiers who have been identified as weight control program candidates or those who are "borderline" cases.

The camp uses a hands-on learning approach and gets participants out of the classroom and into the gym to work with fitness trainers, the commissary for label-reading classes, a kitchen for cooking demonstrations, and fast food restaurants to practice making healthy choices.

According to Mike Ward, Community Health Nurse, participants are usually referred to the program by their first sergeants and are highly motivated to be there. "We find these are soldiers who plan and want to remain on active duty, and who know that increased awareness offered by the camp may assist in overcoming the weight

issue," said Ward.

The camp itself runs for three full days. After that, participants spend an additional five weeks, three days per week, working out at the gym. Throughout this time, they are monitored by fitness trainers and may return at any time to Community Health Nursing for follow-up checks to monitor their progress.

One of the problems faced by soldiers at Ft. Drum is that the barracks do not have kitchenettes. The camp takes this into consideration and teaches participants how to make healthy meals using the microwave. CPT Marybeth Salgueiro, registered dietitian, teaches the nutrition aspects of the program, conducts the commissary classes, and shares in the gym monitoring and weight assessment effort. She also teaches monthly nutrition classes and sees individuals on an appointment basis.

Also assisting with the program is Bonnie Parham, licensed practical nurse assigned to Community Health Nursing. Parham, who recently transferred to Community Health Nursing, was pleasantly surprised at the attitudes of those taking part in the program. "I thought there would be a high rate of negativity from participants," said Parham. "But most seemed to start out with a very interested and excited attitude."

Additional information on the "Climb to Fitness" camp may be

obtained from Ms. Parham at DSN 341-6404 or Ms. Salgueiro at DSN 341-3508. *(Mike Ward, CHN, died unexpectedly at his N.Y. home on 1 December. He made many significant contributions to health promotion.)*

Fort Eustis Develops Soldiering and Parenting Program

Making intelligent family planning decisions is the basis of a program recently developed by staff at Fort Eustis, Virginia. MG Daniel Brown, Commanding General of the U.S. Army Transportation Center tasked MEDDAC Commander COL George Weightman to develop a program to address family planning issues faced by young married and unmarried soldiers. The program, taught by staff from Community Health Nursing, Army Community Services, and Social Work Services, looks at the emotional, financial, social, and career impact of becoming a parent in the hopes that attendees will realize that having a baby means more than just being able to move out of the barracks or receive extra BAQ. During the one hour program, the nitty-gritty details of the financial and time commitment required to raise a child are discussed. The program includes a pre-test, post-test and booklet for all participants. The POC for this program is LTC Steve Heaston at DSN 927-4531.

Health Promotion Salutes

Name: Francine (Fran) M. LeDoux

Rank: Major, Army Nurse Corps

Position: Chief, Army Community Health Nurse, 98th ASG, Wuerzburg Health Service Area, Germany

Education: Master of Nursing, Master of Public Health

Motto: "Fitness for Everyone"
I promote fitness as a major proponent of Preventive Medicine, Preventive Wellness.

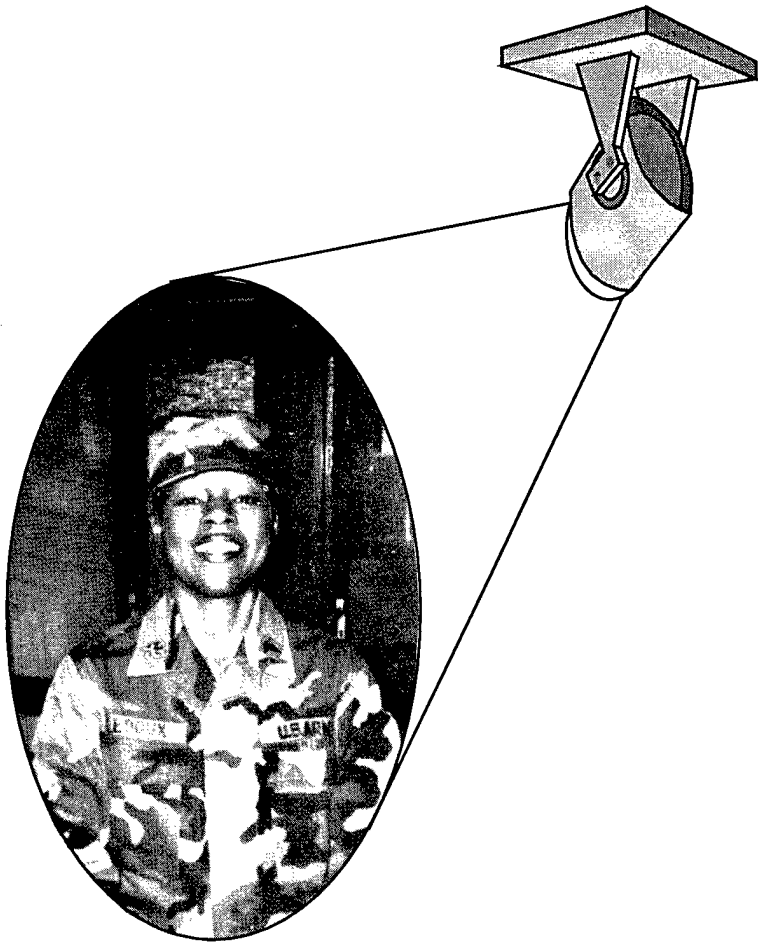
Interesting Facts: The only Army Nurse Corps Officer, Community Health Nurse that is a Certified Master Fitness Trainer from the U.S. Army Physical Fitness School. As the only deployed CHN for Operation Joint Endeavor, provided field fitness classes to the troops and local nationals at Tazar, Hungary.

Healthy Lifestyle Practices:

Exercise - It makes you feel positive about yourself.

Eat sensibly - It makes you feel and look better.

Philosophy: No matter where you are, who you are, young or old, you can be healthy. A healthy lifestyle is a continuum. It never stops. Once you develop it, it will be with you for life.





News From DHPW

Introducing...



LTC Shirley Newcomb is the new Health Promotion Officer at the USACHPPM DSA South at Fort McPherson, Georgia. LTC Newcomb is a Community Health Nurse and has her Masters of Public Health from the University of Washington. She has been involved in Army Health Promotion since 1984 when assigned at Madigan Army Medical Center in Fort Lewis, Washington. Since then she has been assigned as Chief, Preventive Medicine in both Weurzburg, Germany, and in Heidelberg, Germany. She has also had staff assignments at HQ, USAREUR, and HQDA, both in the Office of the Deputy Chief of Staff for Personnel as the Health Promotion Policy Officer. In her current position

at USACHPPM DSA South, LTC Newcomb is pioneering the position of a Community Health Nurse at the DSA. She supports the eleven state DSA and is currently working on a regional health promotion program for TRICARE Region III.

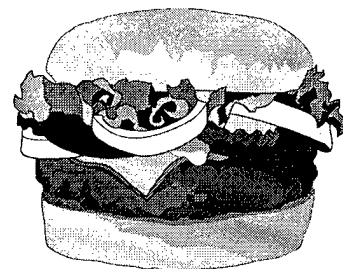


LTC(P) Joan Eitzen is the new program manager for Soldier and Family Readiness. She has had diverse assignments in both patient care and community health during her military career. LTC Eitzen has a Master's Degree in Public Health from Tulane University, a Master's Degree in Social Work from the University of Washington, and a Master's Degree in Military Art and Science from the Army Command and General Staff College, which she attended in residence from 1990-

1991. She comes to USACHPPM after long-term civilian education at the University of Maryland in College Park where she obtained her Ph.D. in Health Education with a major in women's health. She is married to LTC(P) Edward Eitzen, Chief of Operational Medicine at USAMRIID, Ft. Detrick, Maryland.

Power Performance...The Nutrition Connection

Power Performance...the Nutrition Connection (PPNC) is an educational package developed by the United States Institute for Environmental Medicine (USARIEM) and distributed by the U.S. Army Center for Health Promotion and Preventive Medicine (USACHPPM). The purpose of PPNC is to improve soldier health and readiness by communicating performance nutrition information. Use of PPNC does not require a health professional; it can be utilized at the unit level by Training Officers and NCOs.



PPNC contains six modules. Each module consists of a video tape (10-15 minutes), an instructor manual, and a participant manual. The participant manuals are provided in camera-ready copy so they can be reproduced locally in the amount required. The modules address different aspects of nutrition and performance, including Getting Started, Building a Performance Diet, Performance Choices, Fluids, Nutritional Supplements, and High Caliber Nutrition in the Field.

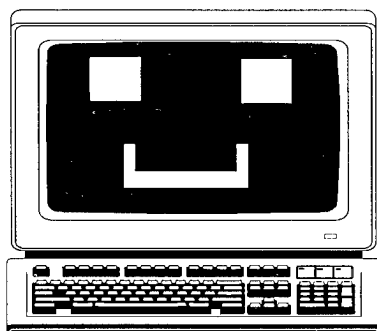
Initial distribution of the videos and notebook (which contains the instructor manual, participant manual, and reproducible masters for the participant manuals) included CONUS and OCONUS Nutrition Care activities, Health Promotion Coordinators, and Training Support Centers. For more information on *Power Performance...the Nutrition Connection*, contact the USACHPPM Nutrition Staff Officer at DSN 584-4656 or comm. (410) 671-4656.

HRA Update -Happy Birthday!!

This year will mark the 10th anniversary of the Army Health Risk Appraisal (HRA) System! The HRA, deployed in 1987, has been the cornerstone of the Army Health Promotion Program. More than 600,000 individual records of health risks have

been captured in the expansive HRA Corporate Database.

After 10 years of superb service, the HRA will transition to the Health Enrollment and Assessment Review (HEAR). Many of the HRA questions will be integrated into the HEAR. All efforts will be made to ensure HEAR, as the Triservice health assess-



ment instrument, can be used to meet all Army requirements in managed care, health assessment, community assessment and research.

HRA system users will be kept abreast of the transition plan. HRA should continue to be used until specific guidance through formal memorandum is forwarded to the field. The HRA Functional and Technical staff continue to be available for your support. We hope to make this a seamless transition for your program.

HRA version 6.2 will be mailed to the field in late January. This will be the last version fielded. Many technical enhancements are included to resolve various field hardware problems such as printer incompatibilities.

The DA Form 5675, Health Risk Appraisal Form, is available through the usual forms acquisition channels. After an extended delay in printing, the forms were restocked and back orders filled in October and November 1996. The X-8 questions are not included in the packet. Our office will be mailing camera ready copies of the X-8 questions for local reproduction.

Please contact LTC Goins or Bethann Cameron at DSN 584-4656 or comm. 410-671-4656 for information on the HRA/ CVS system.

Self Care Tip

To reduce the pain and swelling of an injury, apply ice - not heat - as soon as possible.

- Use a flexible gel pack or bag of frozen vegetables. These conform easily to the injured area.
- Wrap a damp paper towel around the pack to protect your skin.
- Stop once the skin is numb - don't go beyond 20 minutes.
- Reapply every 2 waking hours for the next two to three days.
- Use the RICE formula: rest the injury, ice the injury, compress (wrap) the injury with an elastic bandage, and elevate the injury.

Cooper Institute for Aerobics Research

Health Promotion Director Certification Training Course

The U.S. Army Center for Health Promotion and Preventive Medicine (USACHPPM) and the Cooper Institute for Aerobics Research are proud to offer the Health Promotion Director Certification Training Course, May 12-16, 1997, at the Burkshire Suites Hotel in Towson, Maryland. Application deadline for the course is 15 March 1997. For more information, please call DSN 584-4656 (Civilian 410-671-4656).

This course is open to all Army personnel (Active Duty, National Guard, Reserve, and Civilian) with a duty assignment in a health promotion and wellness-related field or who are currently involved in health promotion program development or implementation. Priority will be given to Health Promotion Directors. National Guard and

Reserve component personnel are encouraged to apply. Participant's commands must cover the TDY cost (travel costs plus per diem). USACHPPM will pay for the course and course workbook.

The purpose of this course is to develop basic skills and knowledge related to planning, implementing, and evaluating comprehensive health promotion programs. Special emphasis is placed on current health promotion programs and resources within the Army. Attendees are expected to attend all classes and complete assigned homework, including the final exam. A passing grade on the final exam is required for certification by the Cooper Institute as a Health Promotion Director.

The Cooper Institute for Aerobics Research was founded as a non-profit research and education center in 1970. The Cooper Institute's research divisions are widely acclaimed for their work in exercise physiology, obesity, nutrition, and other health areas. The Cooper Institute's Division of Behavioral Science and Health Promotion assists organizations in implementing programs to improve employee's health and reduce health care costs. Their talented staff will be presenting



the Health Promotion Director Certification Training Course.

The U.S. Army Center for Health Promotion and Preventive Medicine was organized in 1994 from the former Army Environmental Hygiene Agency with the addition of Medical Surveillance, Disease/Injury Control, and Health Promotion and Wellness. The Directorate of Health Promotion and Wellness (DHPW) is sponsoring the Health Promotion Directors Certification Training Course as part of its mission to provide training support Army-wide in Health Promotion activities. This is in keeping with DHPW's vision "*Health Promotion Integrated Into the Total Army.*"



**U.S. Army Center for Health Promotion and Preventive Medicine
Registration/Application Request**

**Cooper Institute for Aerobics Research
Health Promotion Director Certification Training Course (CHPPM-2102)
Course Title**

**May 12-16, 1997 (Application Deadline : 15 March 1997)
Date**

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Title 5 US Code, Section 301; Executive Order 9397 authorizes the use of your Social Security Number as an identification number. The purpose of this information is to process funding documents. Disclosure of your Social Security Number is not mandatory, however, nondisclosure may result in not being considered for central funding.

I have read the preceding Privacy Act Statement. _____ (Signature)

Officer Name: _____

Job Series/PMOS/Branch: _____

Grade/Rank: _____ SSN: _____

Current Job Title: _____

Gender: "Male" "Female"

Travel Status _____ TDY, PCS, etc.

Component: _____

RA, NG, USAR, CIV(GOV'T), CIV(NON-GOV'T), NAVY, AIR FORCE, etc.

Type of Appointment (Civilians Only) Career Temp Contract

Office Mailing Address: (Include Attention Line)

DSN Phone: _____

Comm Phone: _____

Fax Number: _____

E-mail: _____

Is this training required in your ACTED plan? "Yes" "No"

If Yes, Enter ACTED Plan _____

1. Do you require handicapped accommodations? Yes _____ No _____

Do you require any other special considerations (other than dietary)? Yes _____ No _____ If yes, explain. _____

2. Are you requesting central funding? Yes _____ No _____

Will you be able to attend this training if you are not centrally funded? Yes _____ No _____

In case of a cancellation would you be able to attend on short notices? Yes _____ No _____

3. How will attending this conference improve your ability to do your job?

4. Describe your current involvement in health promotion and wellness activities.

Supervisor's Name: _____

Supervisor's Signature: _____

Supervisor's Title: _____

Supervisor's Phone #: _____

DATE _____

RETURN THIS FORM TO:
COMMANDER
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ATTN:MCHB-DH-P
APG, MD 21010-5422
FAX: 410-612-7381

Ergonomics

By Cathy Wen
USACHPPM Ergonomist

Ergonomics applies knowledge about human capacities and limitations to the design of workplaces, so that the workplace “fits” the workers. When the workplace is not designed properly, cumulative trauma disorders or CTDs could result. Costs associated with increasing numbers of workers with cumulative trauma disorders include medical care, lost work time, insurance and workers’ compensation, loss of material and property damage, increased errors, lost wages, training of a new worker, and administration costs. The intangible costs of decreased job satisfaction, loss of motivation, and human pain and suffering often are not considered but have a profound impact on the workplace. One of the main goals of ergonomics is to prevent CTDs.

Cumulative trauma disorders are afflictions to the muscles, tendons, or nerves that are caused, precipitated, or aggravated by repeated exertions or movements to the body. Such afflictions are called work-related musculoskeletal disorders (WMSDs), repetitive strain injuries (RSIs), repetitive motion trauma, or occupational overuse syndrome. Examples of CTDs include low back injury, epi-

condylitis (tennis elbow), tendinitis (neck), DeQuervain’s disease (tenosynovitis of the thumb), trigger finger, and Raynaud’s syndrome (vibration white finger). Currently, carpal tunnel syndrome (CTS), a disorder caused by damage to the median nerve as it passes through the carpal tunnel in the wrist, is the best known CTD.

Exposure to certain risk factors can result in decreased blood flow to muscles, nerves, and joints; nerve compression; tendon damage; muscle strain; and joint damage. Prolonged exposure to the risk factors can lead to permanent damage. Those tasks with several risk factors present in the job should receive a high priority for engineering redesign or administrative control. Risk factor analyses should include the following:

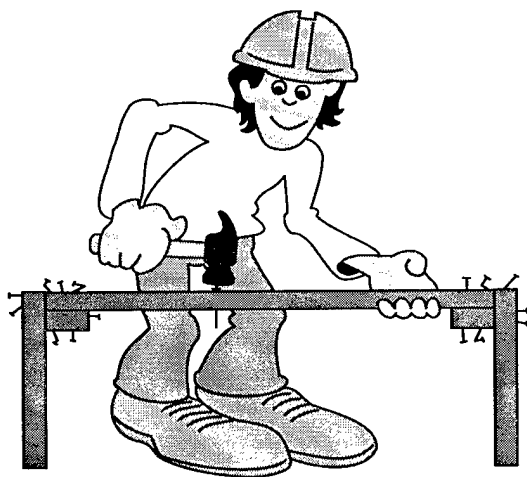
Position or Awkward Postures: Extreme bending or twisting of the wrist and repeated shoulder/elbow elevation are typical awkward postures that can be damaging. Some common causes are inadequate work space, poor hand tool design, and awkward lifting. Redesign tasks so that workers can perform their work in a neutral posture which is usually with their arms relaxed at their sides at approximately a 90 degree angle. Bend tools and equipment rather than the body.

Repetition: Repetitious work may not allow sufficient recovery time for muscles, tendons and nerves. “Rub points” can develop, causing damage that is beyond the body’s natural ability to repair. Machine-pacing and production-based incentives can contribute to the problem. Take short, frequent breaks to allow muscles time to recover or rotate workers through the repetitive job or task.

Duration: Working in the same position for a long period of time (static work) decreases the blood flow to the contracted muscles. Raising the arms overhead (e.g., painting a ceiling) or twisting to see something can be problematic. Limit exposure time to problematic tasks or implement job rotation for repetitive jobs.



Force or Forceful Exertions: Force is the amount of work expended to perform an occupational task. Forceful exertions due to weight, friction, or posture can stress muscles and tendons beyond their capacity. Damage can



occur to the muscles, tendons, ligaments, cartilage, bones, and nerves. Using force in combination with repetitive work in awkward postures is especially dangerous. Use a mechanical assist such as a cart or pulley system to transport materials, reduce weights that are carried, or condition workers for the task.

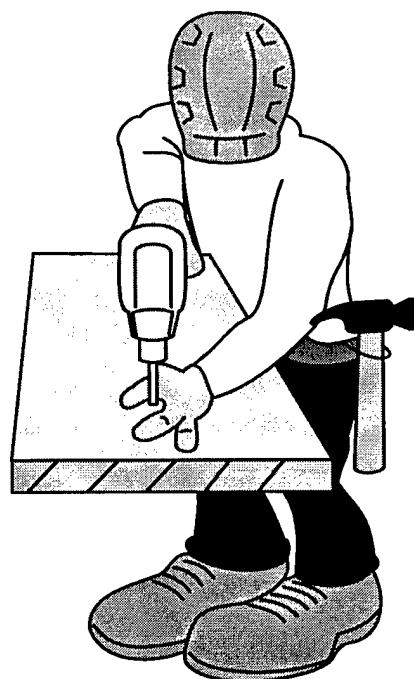
Mechanical Compression: Pressure points from sharp ridges, small handles, or the act of leaning against the sharp edge of a table can damage the underlying muscles, nerves, tendons, and blood vessels. Provide cushioning such as wrist rests at computer workstations or properly fitted gloves for use with handtools. Purchase equipment that distributes the hand-force concentration over a greater area.

Vibration: Vibration from pneumatic hand tools or tools that shake (such as a sander) disrupt the blood flow causing damage to blood vessels in the fingers and to nerves in the wrist. During prolonged exposure, permanent tissue damage can occur. Raynaud's syndrome, commonly known as the "vibration white finger syndrome," can develop as a result of chronic constriction of the blood vessels. Limit exposure

time, regularly perform preventive maintenance on tools, and provide anti-vibration gloves to dampen vibration to palms and fingers.

Temperature: Working in cold temperatures impairs blood circulation in the extremities. Fingertips become numb, resulting in decreased sensation and excessive expenditure of force because of lack of feeling. If tissue damage occurs, the impaired blood flow cripples the healing process. Limit exposure time to harsh environments and provide adequate clothing for the environment.

Early recognition and correction of these risk factors can help reduce the number and severity of injuries in the workplace. An effective ergonomics program means working smarter, not harder. Management will see measurable results in terms of protecting the work force, increasing productivity and quality, decreasing workers' compensation expenditures, and reducing absenteeism and employee turnover. For more information about ergonomics, please contact the USACHPPM Ergonomics Program at DSN 584-3928.



National Health Observances

January

National Birth Defects Prevention Month - Caffeine, alcohol, over-the-counter medications - what's safe and what's not for the expectant mother? Contact your family practice clinic and arrange a lecture addressing this important topic. For a materials kit, contact the March of Dimes Birth Defects Foundation, 1275 Mamaroneck Avenue, White Plains, NY, 10605, (914) 997-4600.

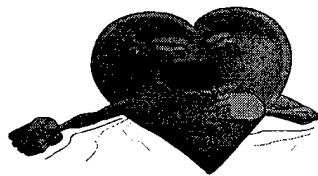
National Eye Care Month and National Glaucoma Awareness Week (19-25) - NIH's National Eye Institute offers a free Glaucoma Community Education Kit to help provide sight-saving information. Millions of Americans are at risk of losing their eyesight to glaucoma, a leading cause of blindness. At highest risk are African Americans over age 40 and everyone over age 60. Use the posters, Eye-Q test and copier-ready art



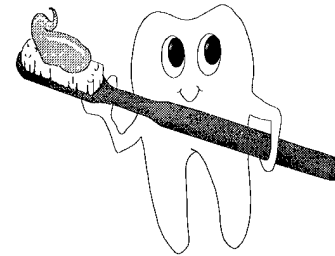
in a program. To request the free kit, call (800) 869-2020.

February

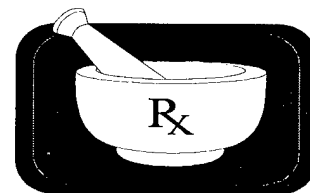
American Heart Month - The heart beats between 70 and 80 times per minute, or about 100,000 times per day and pumps about 75 gallons of blood per hour - 1,800 gallons per day! It's no wonder that we are encouraged to take good care of it. Activities this month can tie nicely into Valentine's Day. Hold a taste-testing and distrib-



ute heart-healthy recipes to make for that special someone. Team up with Morale, Welfare, and Recreation to hold a dance-a-thon to benefit the American Heart Association. Not only would it benefit a good cause, but it would also get people moving. Send out suggestions for alternatives to the traditional Valentine's Day chocolates and heart-healthy choices to make when dining out. For an educational kit, contact the American Heart Association, 7272 Greenville Avenue, Dallas, TX, 75231, (800) AHA-USA1.



National Children's Dental Health Month - According to the Academy of General Dentistry, we should spend at least six minutes a day brushing our teeth. The average person spends just two minutes a day. And children, as we know, spend even less. Contact your installation's dental clinic about promoting dental health in the local schools and day care facilities. For more information, contact the American Dental Association, 211 E. Chicago Avenue, Chicago, IL, 60611, (800) 947-4746.



Wise Health Consumer Month - Tylenol, Nuprin, Advil, Aleve...what's the difference between these over-the-counter medications? If you have a runny nose and cough, do you need a decongestant *and* an antihistamine? These and other questions could be addressed if

you teamed up with the installation's pharmacy staff. Conduct a lunch-time seminar on stocking the medicine cabinet without going broke. You could distribute a pamphlet describing the difference between name-brand medications and generics. For more information on this health observance, contact the American Institute for Preventive Medicine, 30445 Northwestern Highway, Suite 350, Farmington Hills, MI, 48334, (810) 539-1800, ext. 225.

March

National Nutrition Month - In support of the 1997 National Nutrition Month theme, "All Foods Can Fit," a resource packet was compiled and mailed to all Health Promotion Coordinators and Nutrition Care activities. If you did not receive a packet and would like one, contact MAJ Ann Grediagin at DSN 584-4656 or comm. (410) 671-4656.

National Poison Prevention Week (16-22) - According to the National Safety Council, more than 6,000 people die each year from accidental poisonings. Many of these deaths are caused by taking the wrong medication or too much medicine. For more information, contact the Poison Prevention Week Council, P.O. Box 1543, Washington, DC, 20013.

Conferences

February 24-26, 1997: Managed HIV/AIDS Care: Improving Outcomes through Cost Effective Interventions, New York, NY, (508) 481-6400.

March 4-8, 1997: 8th Annual Art and Science of Health Promotion Conference, Hilton Head, SC, (810) 682-1212.

March 10-14, 1997: U.S. Air Force Worldwide Prevention Conference, "Putting It All Together," Dallas, TX, (202) 767-1859.

March 14-18, 1997: The National Council on the Aging 47th Annual Conference, "Vital Aging," Chicago, IL, (202) 479-6991.

March 20-23, 1997: American College of Preventive Medicine Annual Meeting, Atlanta, GA, (202) 466-2044.

March 23-24, 1997: Society of Prospective Medicine 33rd Annual Meeting, Atlanta, GA, (402) 291-3297.

April 20-25, 1997: AMEDD Resource Management Conference, San Antonio, TX, DSN 471-6507.

April 23-27, 1997: American Association of Suicidology Annual Meeting, Memphis, TN, (202) 237-2280.

(202) 237-2280.

April 23-27, 1997: 6th Biennial Symposium on Minorities, the Medically Underserved, and Cancer, Washington, DC, (713) 798-5383.

May 5-12, 1997: American Holistic Medical Association Annual Meeting, Bellevue, WA, (919) 787-5181.

May 28-30, 1997: National Conference on Health Education and Health Promotion and the SOPHE Mid-Year Scientific Conference, Atlanta, GA.

June 25-27, 1997: International Interdisciplinary Conference on Women and Health, "Realizing a Gender-Sensitive Health Care," Amsterdam, The Netherlands, +31 20 525 4791.

July 21-24, 1997: Twelfth International Interdisciplinary Conference on Hypertension in Blacks, London, England, (404) 875-6263.

Self-Care and Health Promotion

by Judy Harris, USACHPPM Health Educator,
and Marcie Birk

What does the term “self-care” mean? Knowing how to treat minor cuts, bruises, and colds? Periodic checks for high blood pressure, cancer of the breast, or glaucoma? Knowing when to go to a health professional for help? Actually, it means these health practices and more. Self-care is **all** of the health-related decision-making that a person does to be healthy.

Important Areas of Self-Care

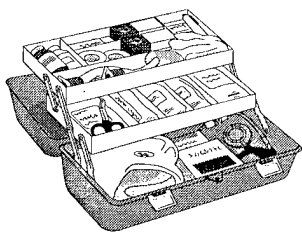
Important areas of self-care include owning and using basic home reference books, as well as remedies for symptoms of common acute conditions and emergencies. Examples include using ice on a bee sting, elevating a swollen foot, using a cool sponge bath to bring down a fever,

recognizing the severity of a burn, and applying emergency techniques to stop bleeding. Self-care also includes seeking early medical treatment of conditions that are beyond the scope of self-care (e.g., loss of feeling following an injury, “heart-burn” accompanied by tightness in the chest and shortness of breath) and knowing how to manage chronic conditions.

Additionally, self-care means choosing healthy lifestyle practices. Health habits such as physical fitness, good nutrition, stress management, and tobacco cessation are essential aspects of self-care. Self-care also means using good safety practices at home, at work, and while riding in or driving a car. These include proper storage of medications and household products, reporting faulty equipment at work, and wearing a seatbelt.

Also, it is important to be well-informed about the local health care system so that choices about health care services can be made quickly and

THE FIRST AID KIT



Dressings

- Adhesive bandage strips (assorted sizes)
- Butterfly bandages
- Elastic bandages, 2 or 3 inches wide
- Adhesive dressing tape

- Sterile cotton balls
- Sterile gauze pads, 4 by 4 inches
- Sterile nonstick pads for use with sterile gauze pads
- Stretchable gauze, one roll
- Triangular bandage for sling or dressing cover

Instruments

- Bulb syringe to rinse eyes or wounds
- Sharp scissors
- Tweezers

Medication

- Antiseptic ointment
- Antihistamine tablets for allergic reactions
- Aspirin or acetaminophen. Do

not give aspirin to children under age 16.

- Syrup of ipecac to induce vomiting. Follow directions of healthcare provider or poison control center.

Miscellaneous

- Airtight packages of hand wipes
- Candle and waterproof matches
- Instant chemical cold packs
- Cotton swabs
- Disposable latex gloves
- Paper and pen or pencil
- Soap
- Tissues
- Safety pins
- Sterile eye wash and/or plastic cup

efficiently when the need arises.

Self-Care - Is It Worthwhile?

Does self-care work? Are there rewards and benefits? Absolutely! Studies published in major medical journals show that self-care materials and techniques reduce health risks, total medical visits, and overall health care costs. Most importantly, self-care will help individuals develop healthy habits and improved quality of life.

Promoting Self-Care

- Write an article for the installation newspaper discussing the concept of self-care. (For a copy of a longer version of the article above, ask your public affairs office to download it from Public Affairs Link.)
- Traveling Medicine Show - Team up with your installation's pharmacy staff and put together a traveling medicine chest for presentations or demonstrations in high-traffic areas. Create a handout that lists items in a well-stocked medicine chest.
- The Doctor Is In - Invite physicians and other providers to give brown bag presentations on how to select a doctor and improve communications with healthcare providers.
- Self-Care Quiz- Create a JEOPARDY-style, true/false or match the answer quiz and distribute via newspaper, flyer or newsletter. Invite readers to return the quiz for a chance at a prize. If the installation has chosen a specific self-care guide, use that as the basis for the questions.

GETTING THE MOST FROM A DOCTOR VISIT



Before you call the doctor

- Write a one-sentence description of your problem and the reason for your call.
- Have a calendar handy with preferred appointment dates and times in mind.

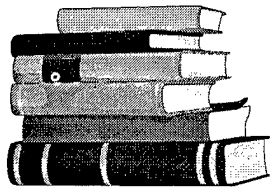
When you schedule an appointment

- Ask how much time you're scheduled for and request additional time if you feel you will need it.
- If possible, take the first appointment of the day. You won't have to wait and the doctor is less likely to be rushed.
- For appointments later in the day, call ahead to make sure the doctor is on schedule.

At the office

- Ask questions. The only stupid question is the one you don't ask.
- Take notes. The doctor is more likely to explain things in understandable terms if you're writing things down.
- Ask the doctor for written material on your condition.
- Share your ideas and feelings; if you feel uneasy about the doctor's recommendations, say so.

Doctors rely more on what the patient tells them than any other information when making a diagnosis. A prepared, informed, and involved patient is the doctor's best resource for making an accurate diagnosis and providing appropriate care. In short, you must become a partner with your doctor in your healthcare.



Literature Reviews

A Review of Worksite Programs

Sheppard, Roy J. (1996). Worksite Fitness and Exercise Programs: A Review of Methodology and Health Impact. *American Journal of Health Promotion*, 11, 436-451.

This article may be beneficial for anyone in the process of establishing or evaluating a worksite fitness and exercise program. The author reviews 51 studies of worksite programs. Discussed are the difficulty in evaluating these programs and some of the health-related outcomes. Overall, participants in worksite programs can enhance their fitness and reduce risk-taking behaviors. Unfortunately, participation is low. (Review by Ms. Janice Langford, Behavioral Health, DHPW)

Bike Helmets

Thompson, Diane C., Rivara, Frederick P., Thompson, Robert S. (1996) Effectiveness of Bicycle Helmets in Preventing Head Injuries - A Case-Control Study. *Journal of the American Medical Association*, 276, 1968-1973.

The study was conducted in Seattle, Washington, at seven area emergency medical centers or hospitals and involved 3849 subjects. It examined the protective effectiveness of

bicycle helmets in individuals in four different age groups ranging from 6 to 40 years in age who had head or brain injuries. It examined injury rates of helmeted vs. non-helmeted bicyclists and occurred over a period of 2 ½ years from March 1992 to August 1994. Children under age six were included if they were riding in a child carrier seat. Persons who were injured as pedestrians or who were assaulted while riding bicycles were excluded. The data was collected through emergency room logs and medical records indicating injury, hospitalization or death by bicycle crashes. Deaths which resulted from the bicycle injury were extracted from the medical examiner. The control group were bicyclists who were treated in the same emergency department with non-head injuries.

Within 7 to 14 days of the emergency room visit, a detailed questionnaire was sent to prospective subjects about the circumstances leading to injury. The response rate was 88%. Non-respondents were followed up by telephone. Next of kin were interviewed if the subject had a severe brain injury or died. Interviews for subjects under age 14 were done by the parents. The questionnaire included demographics, cause of crash, severity, speed, riding experience including frequency, and use/

types of helmet.

To measure effectiveness of the helmets, the three outcomes - head injury, brain injury and severe brain injury - were examined utilizing ICD-9 codes, Abbreviated Injury Scales and Injury Severity Scale scores. Of the cyclists analyzed, 22% had head injuries, 50 % of injuries were due to falls and 15.3% of injuries involved motor vehicle crashes.

Odds ratios and confidence intervals for the protective effect of helmets for risk of head injury in helmeted vs. non-helmeted riders was calculated and adjusted for age and motor vehicle crashes.

Results of the study strongly indicate that helmet use reduces head injury by 69%, brain injury by 65% and severe brain injury by 74%. In this study, there were no significant statistical differences found in the protective effect of the types of helmets - hard shell, thin shell and or no-shell. The overall ownership of helmets was 76% with an average of 50.7% user rate at the time of crash.

This article compares itself to other case control studies involving bicycle helmet effectiveness. It encourages the use of educational and legislative strategies to increase helmet use. (Review by Ms. Bethann Cameron, Health Promotion Resource Center, DHPW)

Is Worksite Health Promotion A Worthwhile Investment?

By LTC Mike Chisick,
CHPPM Dental Staff Officer

Part One

In today's Army, many units have down-sized in staff but not in mission. Consequently, many commanders see their units as overextended and understaffed. Given these circumstances, it is no surprise that unit commanders question the worth of any activity that takes soldiers away from their primary duties. Surprisingly, many commanders question the value of allowing soldiers to participate in worksite health promotion programs. Many believe that their unit physical fitness program is all the health promotion their soldiers need. Yet, few investments a commander could make with a soldier's time will lead to a better return than health promotion. Should unit commanders encourage soldiers to participate in worksite health promotion programs? Judging from what business managers are doing in the private sector, the answer is a resounding yes!

Starting at near zero in the early 1980s and building continually into this decade, worksite health promotion programs have grown at a rapid pace in the United States. According to the 1992 Health and Human Services (HHS) national survey of worksite health promotion activities in private-sector worksites with 50 or more employees, 81% of worksites sponsor one or more health promotion activities. Compared with its 1985 national worksite health promotion survey, HHS noted substantial increases in worksite nutrition, weight control, physical fitness, blood pressure control, and stress management programs in its 1992

survey. The current expansion in workplace health promotion in the private sector is self-initiated, not government mandated. One of the key driving forces behind this expansion is economic. For many private sector firms, health promotion is a serious strategy for controlling rising employee health care costs. In adopting managed care with its emphasis on health promotion and disease prevention, military medicine is mirroring this same trend.

But is this strategy sound? Given that many of the more serious and costly health problems in the United States are the consequence of destructive individual behaviors or unhealthy physical and social environments, the answer, intuitively,

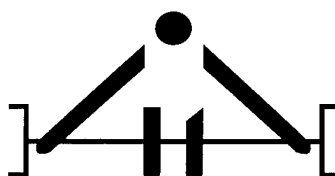
"...health promotion is a serious strategy for controlling rising employee health care costs."

would appear to be yes. Cigarette smoking, for example, is the leading cause of preventable death and disability in the United States. Together with unhealthy diets and inactive lifestyles, tobacco accounts for more than 700,000 deaths, or 30% of total deaths, annually in the United States. Persons who smoke an average of one or more packs of cigarettes a day spend 18% more on medical care than those who do not smoke. Another unhealthy individual behavior that contributes substantially to health care costs is physical inactivity. The Framingham study showed that the rate of coronary heart disease is about three times higher for men with inactive lifestyles than for men with active lifestyles. Yet, despite common knowledge that exercise is healthful, more than 60% of American adults do not exercise regularly, and 25% of the adult population does not exercise at all. It is also common knowledge that another destructive individual behavior--a high cholesterol diet-- is a major risk factor for heart disease. Of

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the 1 million cardiovascular deaths annually in the United States, nearly 85% are attributable to atherosclerosis, a condition in which cholesterol plays a contributory role. An estimated 25% of adult Americans should lower their blood cholesterol level. The risk of heart attack drops by 2% for each 1% reduction in serum cholesterol level. Finally, another self-destructive behavior--alcohol and drug abuse--ranks as the nation's fourth leading cause of death, accounting for 130,000 premature deaths each year and an estimated 15% of all health care costs. Indeed, public health experts estimate that half to 70% of all disease and premature death is potentially preventable. Further, by targeting just six health behavior problems--heart disease, stroke, fatal and nonfatal occupational injuries, motor vehicle-related injuries, low birthweight, and gunshot wounds--an estimated \$69 billion of our nation's annual \$1 trillion expenditures on medical



care could be avoided.

However, evaluating the soundness of health promotion as a strategy for lowering medical care expenditures requires more than just consideration of its theoretical impact. It also requires examining several practical problems, including weighing the costs of a given health promotion intervention with its potential benefits to determine whether the intervention is good value for money, that is, whether the benefits outweigh the costs. It also may involve evaluating the health- and cost-effectiveness of alternative health promotion activities so that the most efficient activity for a given health risk can be identified. The former type of evaluation is referred to as cost benefit analysis (CBA), the latter as health or cost-effectiveness analysis (CEA).

The conclusion of this article will appear in the spring issue of the Army Health Connection.

Continued from page 4

injured. COL Jones said that an old injury is a big risk factor for a repeat of that injury and that circumstantial evidence indicates that inadequate rehabilitation of the injury is part of the problem. Everyone needs to work together to get the soldier healthy before he or she returns to duty so that the injury doesn't recur.

Smoking and Injuries

Everyone knows that smoking has long-term effects on health, but are there any short term effects?

"Yes," said COL Jones, "there seems to be a relationship between smoking and injuries." Studies of various populations including basic trainees, infantry soldiers, Special Forces, and other groups indicate that soldiers who smoke get injured more.

The exact reason for this has yet to be determined. However, studies have shown that smoking has a negative effect on wound healing. COL Jones said overuse injuries are really an imbalance of normal wear and tear and the body's ability to

heal itself. Smoking may retard the body's ability to heal itself on a daily basis.

Female Soldiers and Injuries

According to COL Jones, the basic training injury rate for females is about 1.5 to 2 times the rate of males. But he emphasized that this is probably not a function of gender but rather of lower physical fitness levels upon entering the Army. COL Jones said that men and women with similar fitness levels have relatively the same risk of injury. In basic training, a primary risk factor for both genders is low physical fitness. Women come into the service with lower levels of physical fitness than men, hence the increased injury rate. Therefore, gender per se is probably not as great a risk factor as lower levels of physical fitness.

In Conclusion

"Injuries are such a big problem we can't tackle everything at once," said COL Jones. "But we know that when we focus on a problem, like motor vehicle accidents, we *can* make a difference."

Seizing the Opportunity to Make a Difference (And Measure It)

by LTC Sandra Goins,
CHPPM Program Manager

What is the status of health promotion programs in the AMEDD? A telephone survey was conducted of 43 health promotion and wellness sites within Army medical treatment facilities (MTF) to assess the current status of health promotion and wellness programs. Surveys were conducted by DHPW staff on 19-20 November 96.

Survey conclusions follow.

- * Fifty percent of health promotion sites have implemented services to support seven of nine program components identified by AR 600-63 (see table 1).

- * Programs have expanded to meet the needs of managed care. New components include clinical preventive screening (Put Prevention into Practice) and self-care.

- * Program components have been implemented to meet the needs of special populations

such as pregnancy fitness, asthma education, diabetes education, women and men's clinics, parenting classes and back injury prevention classes.

Survey results note that there are many excellent health promotion programs throughout the AMEDD, but these programs are not at each installation. Our concern and challenge is to ensure that, at a minimum, there are core components of health promotion programs at all Army MTFs. Once these core components are implemented, then we can more appropriately measure indicators and determine if indeed we have made a difference.

The goal of the Army Health Promotion Program, as outlined in AR 600-63, Army Health Promotion, is to maximize readiness, combat efficiency and work performance. Program objectives are to enhance quality of life and to encourage lifestyles to improve and protect physical, emotional and spiritual health. This guidance is the basis for all AMEDD health promotion programs.

A concerted, integrated effort is necessary for impact. There must be common goals and objectives for health promotion programs and all health promotion programs throughout the AMEDD must be actively involved in meeting these objectives. In addition, we must have indicators to measure outcomes of process and behavior change.

In addition to goals and objectives, key program components are identified in AR 600-63. Results from the DoD Worldwide Survey of Health Related Behaviors and other references validate the need for continued emphasis in the identified components. The Selected Healthy People 2000 Objectives for the DoD and prevention components of the Health Plan Employer Data and Information Set (HEDIS) validated behavior change outcome measures for health promotion programs.

USACHPPM has developed a business plan to

HP Program Components (IAW AR 600-63)	Sites with Components
Tobacco Cessation*	92%
Sexually Transmitted Disease/ HIV/AIDS Education	88%
Health Risk Appraisal*	83%
Nutrition/Cholesterol Education*	78%
Weight Control*	69%
Hypertension Education*	59%
Stress Management*	54%
Self-Care	52%
Substance Abuse*	50%
Back Injury Prevention	45%
Physical Conditioning*	45%
Pregnancy Fitness	45%
Suicide Prevention*	45%
Clinical Preventive Screening (PPIP)	45%
Oral Health Fitness*	38%

* Health Promotion Program components identified in AR 600-63.

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On the Web

<http://www.pueblo.gsa.gov/health.htm>

This page provides a listing of health publications by GSA's Consumer Information Center. Here you can find the publication title and brief synopsis, along with a link to the entire text of the document which can be printed or downloaded. GSA's home page, with links to its major functions, can be found at <http://www.gsa.gov>.

<http://vm.cfsan.fda.gov>

This is the home page of the FDA's Center for Food Safety and Applied Nutrition. Here you'll find links to other food safety and applied nutrition sites as well as advice for consumers. Click on Material for Educators and you'll arrive at a complete eight-lesson program on food safety for high school students.

<http://www.amhrt.org/ahawho.htm>

The address above will take you to the site of the American Heart Association's home page. The site

has information for both the general public and health care professionals, as well as a search engine to help you to navigate around the site. Health care professionals can find information on meetings and conferences and continuing medical education. Information for the general public includes:

- Kids Only
- Food and Nutrition
- Exercise
- Patient Information
- Consumer Health News
- General Reference



<http://www.armymwr.com>

This is the home page of the U.S. Army Community and Family Support Center - Morale, Welfare and Recreation. Along with the Commanding General's Comments and an MWR Overview, it has information on Recreation, Sports, Leisure and Entertainment, Travel, Lodging and Relocation, and MWR News and Features. The site also contains a search engine.

Continued from page 21

proliferate health promotion in the AMEDD. Key elements include (1) identification of core components of health promotion programs, (2) development of tool boxes (health education materials and resources) to support each of the components, (3) development of an evaluation packet for each core component and (4) completion of an in-depth onsite assessment of AMEDD health promotion programs.

General Reimer, Army Chief of Staff, said he believes the Army Health Promotion Program has positively impacted the Total Army. He said, "I am very pleased with the ongoing concentrated efforts of health promotion programs; they have literally changed soldier's lifestyles. Habits such as smoking and alcohol abuse are down - but there

is still work to be done." (*Army Health Connection*, Summer 1996).

LTG Blanck, the Army Surgeon General, noted that the change in health care focus to wellness, prevention and managed care, is an AMEDD challenge that can be perceived as a threat or an opportunity. As health promotion professionals, it is our opportunity to demonstrate that health promotion does make a difference and is indeed a force multiplier.

Let us seize the opportunity presented by the Army Surgeon General and continue to do the work identified by the Army Chief of Staff!

Cold Injury Prevention

- Wear clothing in loose layers to provide good insulation and allow for adequate blood circulation throughout the body.
- Keep hands dry and well-protected.
- Mittens protect better than gloves.
- Avoid long exposure of bare hands and wrists in cold climates.
- Keep feet warm and dry by wearing proper footwear and changing socks frequently.
- Avoid immobility in the cold - continue to move around as much as possible.
- Use the buddy system to determine the severity of cold weather injuries.
- Participate in training on preventing, recognizing, and treating cold injuries.

Cold Injuries Include:

Chilblain: Red, swollen, tender skin. Hot to touch. May itch. May become aching or prickly then numb.

Trench foot: At first, itching, numbness, tingling pain. Later, feet may become swollen and skin mildly red, black or blue.

Frostnip: Frostnip is freezing of surface skin. Reddened or possibly swollen. Usually no further damage on rewarming. First sign of impending frostbite.

Frostbite: Skin becomes numb and turns gray, waxy-white color. Damage to tissue. After thawing, swelling may occur, worsening injury.

General hypothermia: MEDICAL EMERGENCY!! May be difficult to recognize early. Withdrawn, bizarre behavior, irritability, confusion, slowed or slurred speech, altered vision, uncoordinated movements, unconsciousness. Note: Victims may appear with no apparent heartbeat, breathing or response when not really dead.

First Aid

Chilblain/trench foot: Prevent further exposure. Remove constrictive clothing, wash and dry injury gently. Elevate, cover with layers of warm, loose clothing and allow to rewarm. Do not pop blisters, apply lotions, massage, apply extreme heat or allow casualty to walk on injury. Refer for medical treatment.

Frostnip/frostbite: Prevent further exposure. Remove wet, constrictive clothing and rewarm with direct skin to skin contact. Evacuate for medical treatment. Do not allow injury to refreeze during evacuation.

General hypothermia: Prevent further exposure. Remove wet clothing. Initiate CPR only if required. Rewarm by covering with blankets and direct body to body contact. Handle gently during treatment and evacuation.